

CLAIMS

Thus having described the invention, I claim:

1. The combination comprising:

(A) a flexible bottle type container and closure cap used for the storage and dispensing of pourable liquids comprised of a tubular body portion with a sealed bottom end and an opposite top end forming a funnel shaped neck with an open pour spout that includes means for securing said closure cap and said pour spout ending with a flat exterior rim perpendicular to the bore of said pour spout providing a surface area for bonding a closure seal over said opening of said pour spout.

(B) an improved leak proof pressure activated self opening multi layered frangible closure seal for sealing over said opening of said pour spout of said flexible container constructed of a first layer of leak proof frangible sheet material that is bonded to a second layer of sheet material that contains at least one cut through and / or cut out void configuration that forms a breaking pattern that turns said second layer into a break and tear template layer and that when bonded to said first frangible layer strengthens the surface area of said first frangible layer everywhere except in the area of said breaking pattern by leaving only said first frangible layer covering over said cut through and/or cut out void configuration of said breaking pattern of said second template layer which leaves a weakness in said multi layered seal only in the area of said breaking pattern which forces said seal to break open and tear only in said weaker single frangible layered area of said breaking pattern thereby allowing said contained pourable liquid to dispense out through said opening of said pour spout of said container when said seal is bonded over said opening and sufficient internal pressure is brought to bear against said seal when said filled uncapped container is inverted and squeezed by a consumer.

2. The seal of claim 1 wherein said seal is bonded to said rim of said pour spout of said container of claim 1 sealing over said opening of said pour spout of said container providing a pressure activated self opening frangible closure seal that is only of sufficient strength to allow said seal to remain unbroken from the pressure created when a consumer grips and inverts said filled uncapped container and said seal also being of sufficient weakness to allow said seal to break open only in said configuration of said breaking pattern and dispense said contained pourable liquid out through said opening of said pour spout when

sufficient additional pressure is brought to bear against said seal when said filled uncapped inverted container is pressurized by a consumer squeezing said container.

3. The closure cap of claim 1 wherein said closure cap prevents said seal of claim 1 from breaking open prior to the removal of said closure cap from said container.

4. The configuration of said breaking pattern of said seal of claim 1 wherein said configuration includes at least one unbroken area that connects at least one said central portion of said seal that breaks open outwardly from the force of said contained pourable liquid dispensing out of said opening of said pour spout of said container when said seal breaks open to the annular portion of said seal remaining bonded to said rim of said pour spout keeping at least one said central portion of said seal from breaking off and contaminating said contained pourable liquid when dispensed.

5. The configuration of said breaking pattern of said seal of claim 1 wherein said configuration includes a varied C shaped, H shaped, 3 or more point star shaped, X shaped, wave shaped, spiral shaped, or circular shaped configuration.

6. The seal of claim 1 wherein said template layer side of said seal is bonded to said rim of said pour spout of said container of claim 1 sealing over said opening of said pour spout of said container.

7. The seal of claim 1 wherein said frangible layer side of said seal is bonded to said rim of said pour spout of said container of claim 1 sealing over said opening of said pour spout of said container.

8. The seal of claim 1 wherein said seal is bonded over said opening of said pour spout of said container of claim 1 by: induction sealing; heat sealing; evaporative sealing; reactive sealing; or ultrasonic sealing.

9. The frangible layer of said seal of claim 1 wherein said frangible layer is made up of one or more layers of the same or different materials wherein said materials are; metal foil, polymers, plastic, or paper.

10. The template layer of said seal of claim 1 wherein said template layer is made up of one or more layers of the same or different materials wherein said materials are; metal foil, polymers, plastic, paper or adhesive.

11. The seal of claim 1 wherein said frangible layer is bonded to said template layer by at least one layer of adhesive.

12. The adhesive layer of claim 11 wherein said adhesive layer includes an area void of said adhesive that duplicates said cut through and/or cut out void configuration of said breaking pattern of said template layer of said seal of claim 1.

13. The seal of claim 1 wherein said seal is bonded to said rim of said pour spout of said container of claim 1 by at least one layer of adhesive.

14. The adhesive layer of claim 13 wherein said adhesive layer includes an area void of said adhesive that duplicates said cut through and / or cut out void configuration of said breaking pattern of said template layer of said seal of claim 1.

15. The seal of claim 1 wherein said seal includes one or more additional layers of the same or different materials wherein said materials are: metal foil; plastic; polymers; synthetic foam; pulp board; paper; adhesive; or releasable adhesive providing means for bonding said seal over said opening of said pour spout of said container of claim 1 by: induction sealing; heat sealing; evaporative sealing; reactive sealing; or ultrasonic sealing.

16. The seal of claim 1 wherein said frangible layer is bonded to said template layer by non adhesive means such as cladding or fusion bonding and the like.

17. The pourable liquid of claim 1 wherein said liquid includes; motor oil, transmission fluid, motor vehicle additives, lubricants, or chemicals.

18. A leak proof pressure activated self opening closure seal for sealing over the dispensing opening of a flexible container of the type used for storing and dispensing pourable liquids such as motor oil, motor vehicle additives, lubricants, or chemicals and the like comprised of:

(A) a first layer of leak proof frangible sheet material bonded to a second strengthening layer of sheet material that contains at least one cut through and / or cut out void configuration that forms a breaking pattern that turns said strengthening layer into a break and tear template layer.

(B) wherein said bonding means bonding said frangible layer to said template layer includes an area void of said bonding means that duplicates said cut through and / or cut out void configuration of said breaking pattern.

(C) wherein said cut through and / or cut out void configuration of said breaking pattern of said

template layer creates a weakness in said multi layered seal only in the area of said breaking pattern by leaving only said first frangible layer covering over said cut through and / or cut out void configuration forming said breaking pattern.

(D) wherein said seal is bonded over said dispensing opening of said container providing a leak proof self opening frangible closure seal only of sufficient strength to remain intact when subjected to the pressure created in said container when said filled uncapped container is gripped and inverted by a consumer; and

(E) said seal also being of sufficient weakness to break open outwardly only in the configuration of said breaking pattern thereby allowing the dispensing of said contained flowable liquid out through said dispensing opening of said container when sufficient additional pressure is brought to bear against said seal by a consumer squeezing said filled uncapped inverted container.

(F) wherein said flexible container includes a closure cap that prevents said seal from breaking open prior the removal of said closure cap from said container.

(G) wherein said configuration of said breaking pattern forms at least one connected portion that breaks open outwardly when said seal breaks open allowing the dispensing of said contained flowable liquid out through said dispensing opening while said connected portion remains attached to the peripheral portion of said seal remaining bonded around said dispensing opening of said container.

(H) wherein said bonding means bonding said seal over said dispensing opening of said container includes a voided area that allows said seal to break open without said bonding means impeding said opening procedure.

(I) wherein said frangible layer side of said seal is bonded over said dispensing opening of said container.

(J) wherein said template layer side of said seal is bonded over said dispensing opening of said container.

(K) wherein said frangible layer is comprised of one or more layers of the same or different materials wherein said materials include; metal foil, plastic, polymers, or paper.

(L) wherein said template layer is comprised of one or more layers of the same or different materials

wherein said materials include; metal foil, plastic, polymers, paper, or adhesive.

(M)wherein the bursting pressure of said seal can be adjusted by either varying the thickness of said frangible layer; by adjusting the configuration of said breaking pattern; by the choice of materials used; or by combinations of one or more of these.

19. A leak proof pressure activated self opening closure seal for sealing over the dispensing opening of a flexible container of the type used for storing and dispensing pourable liquids such as motor oil, motor vehicle additives, lubricants, or chemicals and the like comprised of:

(A) a first layer of leak proof frangible sheet material bonded to one side of a strengthening layer of sheet material that contains at least one cut through and / or cut out void configuration that forms a breaking pattern that turns said strengthening layer into a break and tear template layer with a second layer of leak proof frangible sheet material bonded to the opposite side of said strengthening template layer.

(B) wherein said bonding means bonding said frangible layers to said template layer includes an area void of said bonding means that duplicates said cut through and / or cut out void configuration of said breaking pattern.

(C) wherein said cut through and / or cut out void configuration of said breaking pattern of said template layer creates a weakness in said multi layered seal only in the area of said breaking pattern by leaving only said frangible layers covering over said cut through and / or cut out void configuration forming said breaking pattern.

(D) wherein said seal is bonded over said dispensing opening of said container providing a leak proof self opening frangible closure seal only of sufficient strength to remain intact when subjected to the pressure created in said container when said filled uncapped container is gripped and inverted by a consumer; and

(E) said seal also being of sufficient weakness to break open outwardly only in the configuration of said breaking pattern thereby allowing the dispensing of said contained flowable liquid out through said dispensing opening of said container when sufficient additional pressure is brought to bear against said seal when said filled uncapped container is inverted and squeezed by a consumer.

(F) wherein said flexible container includes a closure cap that prevents said seal from breaking open prior to the removal of said closure cap from said container.

(G) wherein said configuration of said breaking pattern forms at least one connected portion that breaks open outwardly when said seal breaks open allowing the dispensing of said contained flowable liquid out through said dispensing opening while said connected portion remains attached to the peripheral portion of said seal remaining bonded around said dispensing opening of said container.

(H) wherein said bonding means bonding said seal over said dispensing opening of said container includes a voided area that allows said seal to break open without said bonding means impeding said opening procedure.

(I) wherein said frangible layers are comprised of one or more layers of the same or different materials wherein said materials include; metal foil, plastic, polymers, or paper.

(J) wherein said template layer is comprised of one or more layers of the same or different materials wherein said materials include; metal foil, plastic, polymers, paper, or adhesive.

(K) wherein the bursting pressure of said seal can be adjusted by either varying the thickness of said frangible layers; by adjusting the configuration of said breaking pattern; by the choice of seal material used; or by combinations of one or more of these.

20. A leak proof pressure activated self opening closure seal for sealing over the dispensing opening of a flexible container of the type used for storing and dispensing pourable liquids such as motor oil, motor vehicle additives, lubricants, or chemicals and the like comprised of:

(A) a layer of leak proof frangible sheet material bonded between two layers of strengthening sheet material that each contain one or more duplicate cut through and / or cut out void configurations that form breaking patterns that turn said strengthening layers into break and tear template layers.

(B) wherein said bonding means bonding said template layers to said frangible layer include areas void of said bonding means that duplicate said cut through and / or cut out void configurations of said breaking patterns.

(C) wherein both said cut through and / or cut out void configurations of said breaking patterns of said template layers create a weakness in said multi layered seal only in the area of said breaking patterns by

leaving only said frangible layer between said cut through and / or cut out void configurations of said template layers forming said breaking pattern.

(D) wherein said seal is bonded over said dispensing opening of said container providing a leak proof self opening frangible closure seal only of sufficient strength to remain intact when subjected to the pressure created in said container when said filled uncapped container is gripped and inverted by a consumer; and

(E) said seal also being of sufficient weakness to break open outwardly only in the configuration of said breaking pattern thereby allowing the dispensing of said contained flowable liquid out through said dispensing opening of said container when sufficient additional pressure is brought to bear against said seal when said filled uncapped container is inverted and squeezed by a consumer.

(F) wherein said container includes a closure cap that prevents said seal from breaking open prior to the removal of said closure cap from said container.

(G) wherein said configuration of said breaking patterns form at least one connected portion that breaks open outwardly when said seal breaks open allowing the dispensing of said contained flowable liquid out through said dispensing opening while said connected portion remains attached to the peripheral portion of said seal remaining bonded around said dispensing opening of said container.

(H) wherein said bonding means bonding said seal over said dispensing opening of said container includes a voided area that allows said seal to break open without said bonding means impeding said opening procedure.

(I) wherein said frangible layer is comprised of one or more layers of the same or different materials wherein said materials include; metal foil, plastic, polymers, or paper.

(J) wherein said template layers are comprised of one or more layers of the same or different materials wherein said materials include; metal foil, plastic, polymers, paper, or adhesive.

(K) wherein the bursting pressure of said seal can be adjusted by either varying the thickness of said frangible layer; by adjusting the configuration of said breaking pattern; by the choice of said seal material used; or by combinations of one or more of these.